

Figures

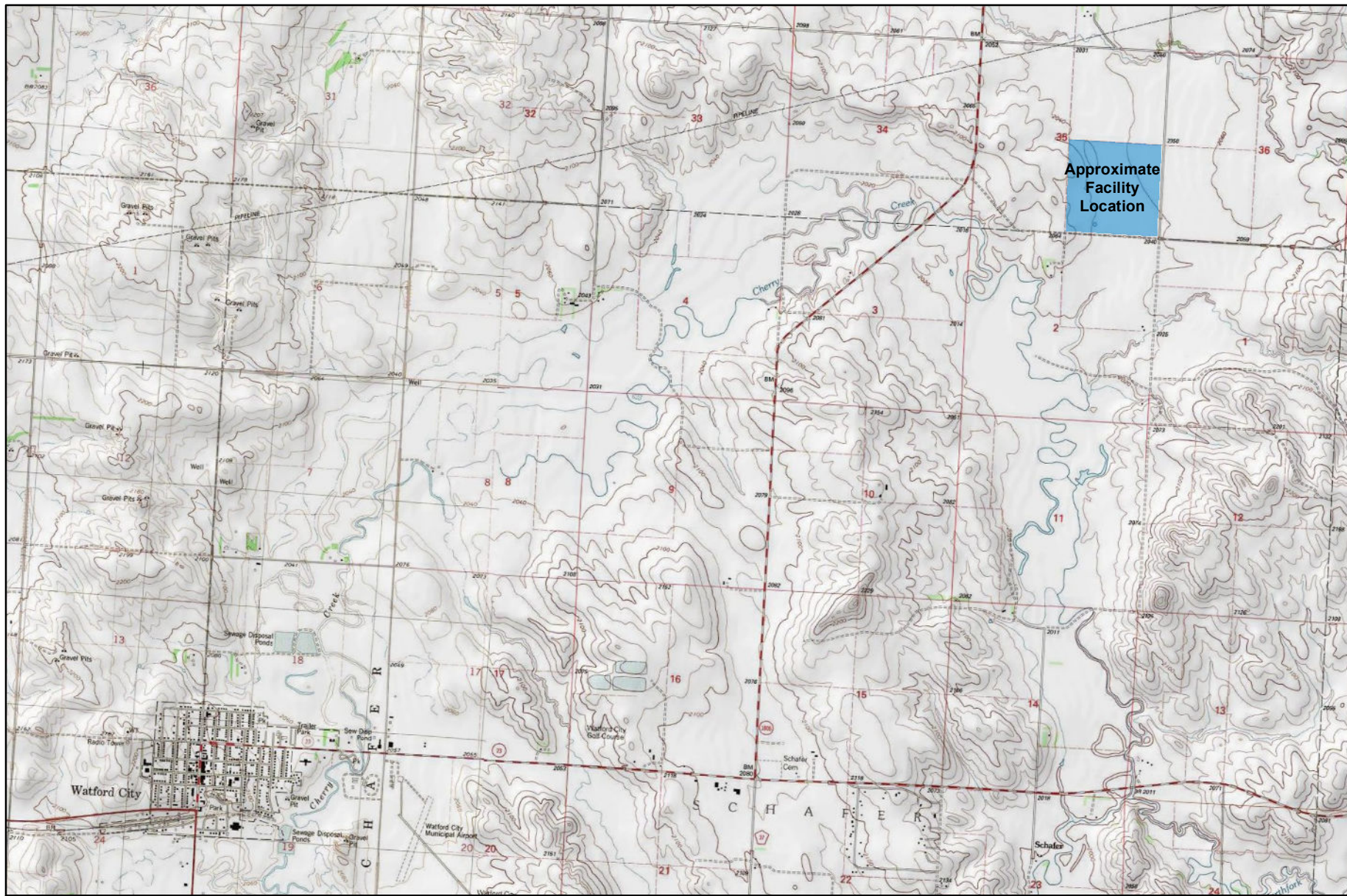
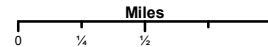


Figure 1-1
Site Location
Site Assessment Report
Garden Creek 1 Gas Plant
Watford City, ND



1:48,000



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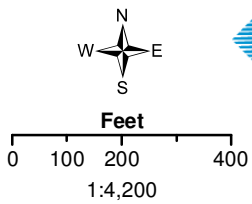


Figure 1-2: Facility Layout
Site Assessment Report
Garden Creek 1 Gas Plant
Watford City, ND

- | | | |
|-------------------------------|----------------------------|---|
| Water Well | Electrical Manhole | Underground Communications/Fiber Optic Line (approximate) |
| Excavation Area | Underground Electric | Septic System |
| Approximate Property Boundary | Underground Gas/Condensate | Underground Water |

Approximate Public/County R/W
(From Bear Paw Energy Inc.
Drawing No. 3710376BAS01)

Approximate McKenzie Electric
Transmission Line R/W (From Bear
Paw Energy, Inc Drawing No.
3710376BAS01)



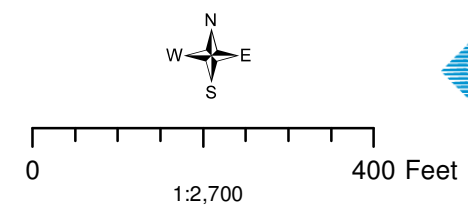


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Figure 2-2: Site Plan Soil Borings
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- LIF = Laser Induced Fluorescence (2015)
 - SB = Soil Boring (2015)
 - SB = Soil Boring (2016)
 - SB = Soil Boring (2017)
 - SB = Soil Boring (2018)
- Approximate Property Boundary



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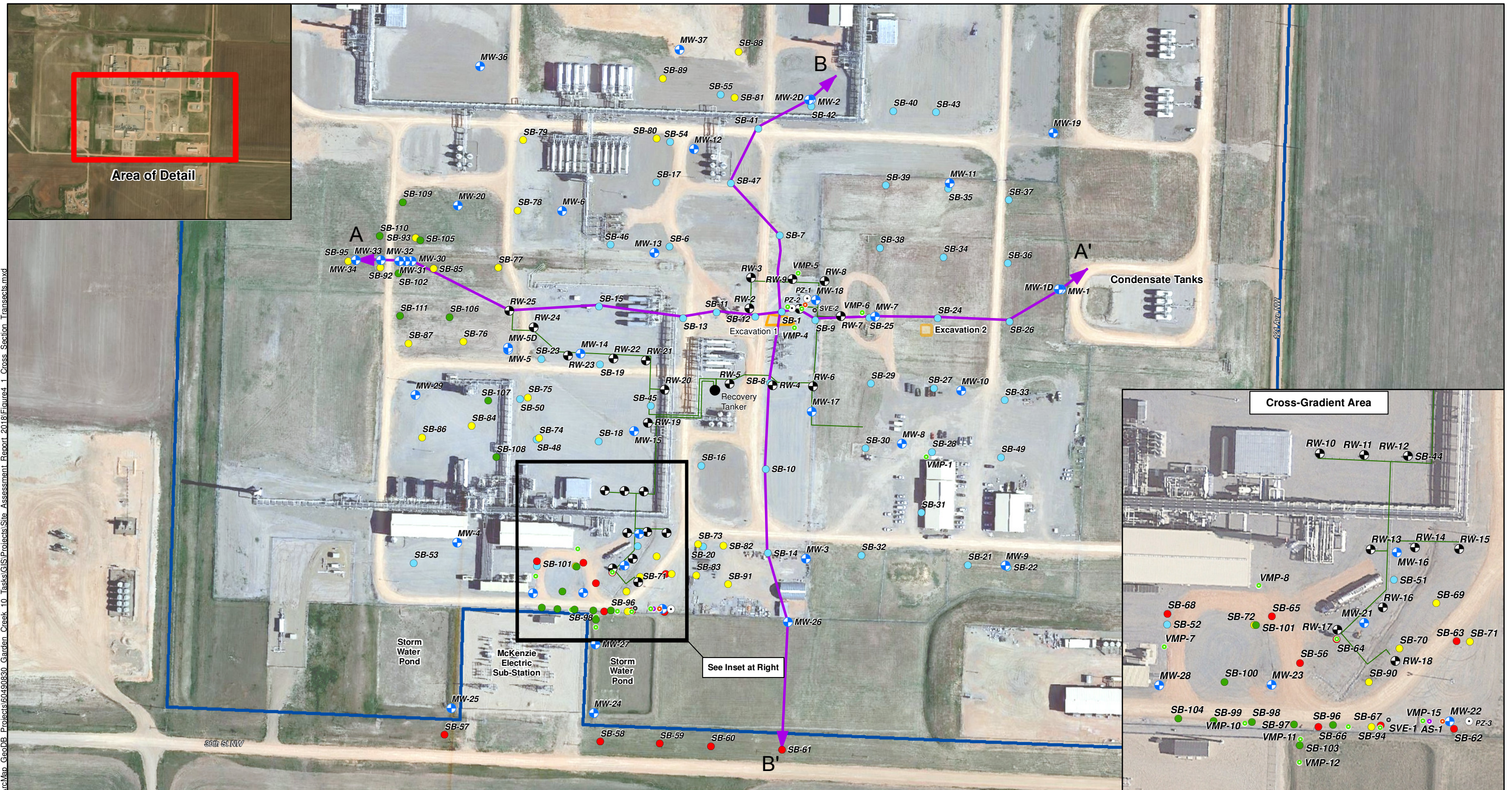


Figure 4-1: Cross-Section Transects
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Soil Boring 2015
- Soil Boring 2016
- Soil Boring 2017
- Soil Boring 2018

- MW = Monitoring Well
- PZ = Piezometer
- Recovery Well
- 400-Bbl Upright Tank
- Recovery System Piping

Air Technology Locations 2017

- AS = Air Sparge Well
- BVW = Biovent Well
- SVE = Soil Vapor Extraction Well
- VMP = Vapor Monitoring Point

- Cross-Section Transect
- Excavation Area
- Approximate Property Boundary



0 1:2,700 400 Feet



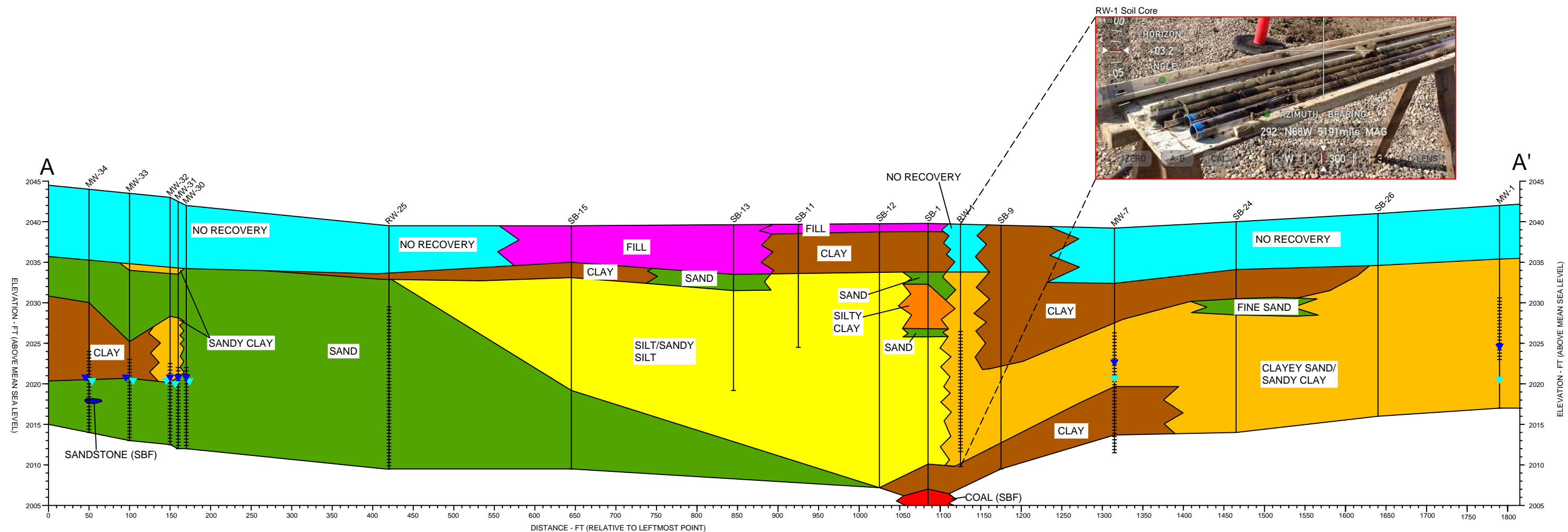


Figure 4-2
Cross-Section A-A'
Site Assessment Report
Garden Creek 1 Gas Plant
Watford City, ND

LEGEND

NO RECOVERY

FILL

SAND; MEDIUM-COARSE
SAND; FINE SAND

SILT/SANDY SILT

SANDSTONE (SBF)

CLAYEY SAND/SANDY CLAY

SILTY CLAY

CLAY

COAL

SCREENED INTERVAL

MAXIMUM WATER TABLE ELEVATION

MINIMUM WATER TABLE ELEVATION

Vertical Scale 1"=12.5'
Horizontal Scale 1"=125'

Note:

- 1) No recovery is due to hydrovac excavations.
- 2) Fill is comprised of gravel/scoria.
- 3) Sandy clay/clayey sand is interbedded with discontinuous sand stringers as preferential water pathways. This is seen on the callout box for RW-1 (alternating tan and black lithologies).
- 4) ft = feet; SBF = Sentinel Butte Formation
- 5) Minimum and maximum groundwater elevations were only included for monitoring wells that are gauged monthly



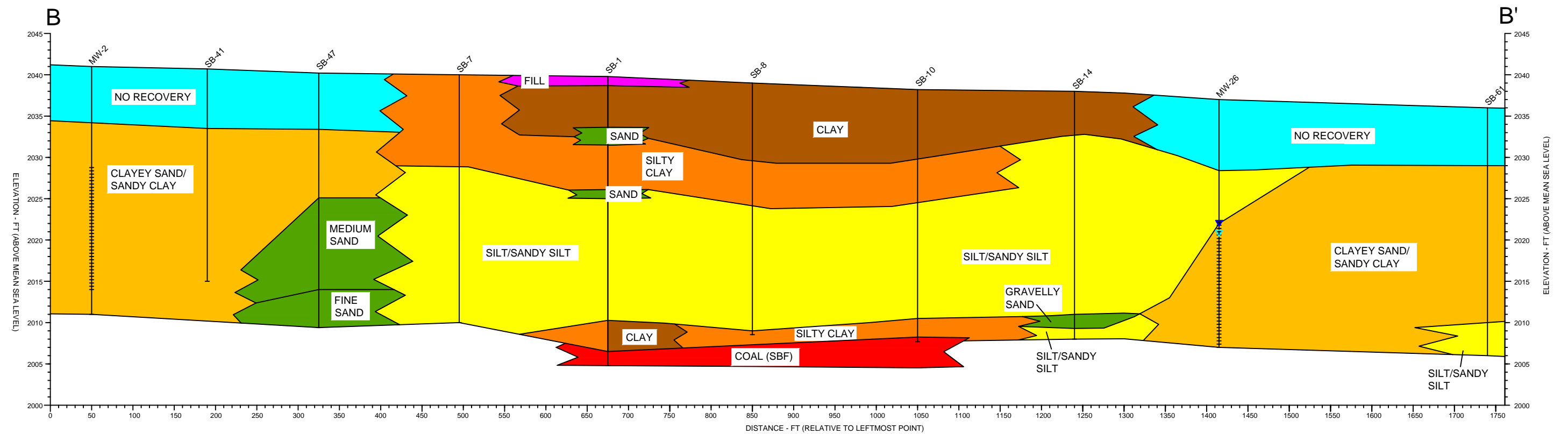


Figure 4-3
Cross-Section B-B'
Site Assessment Report
Garden Creek 1 Gas Plant
Watford City, ND



Vertical Scale 1":12.5'
Horizontal Scale 1":125'

Note:
 1) No recovery is due to hydrovac excavations.
 2) Fill is comprised of gravel/scoria.
 3) Sandy clay/clayey sand is interbedded with discontinuous sand stringers as preferential water pathways. This is seen on the callout box for RW-1 (alternating tan and black lithologies).
 4) ft = feet; SBF = Sentinel Butte Formation
 5) Minimum and maximum groundwater elevations were only included for monitoring wells that are gauged monthly



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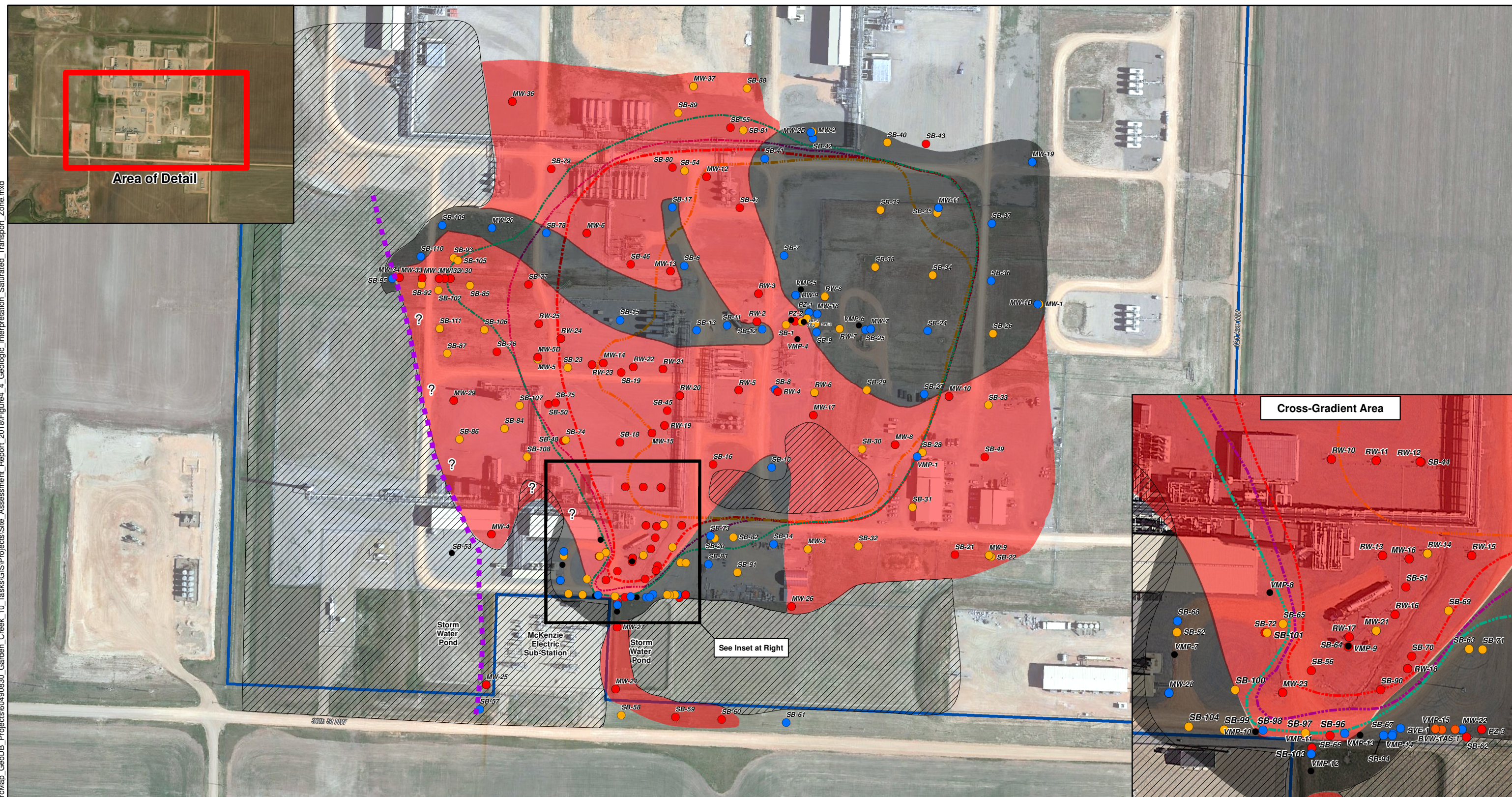
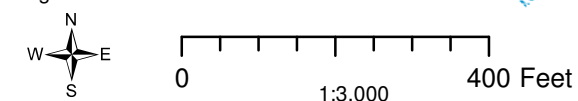


Figure 4-4: Geologic Interpretation of Saturated Transport Zone
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- | | | |
|--|--|--|
| ● Fine-grained soil | ○ Data Gaps | ○ Impacted Extent through September 2015 - 16.17 Acres |
| ● Mix of fine- and medium grained soil | ○ Inferred area of fine-grained soil | ○ Impacted Extent through October 2016 - 22.28 Acres |
| ● Medium- and coarse grained soil | ○ Inferred area of medium- and coarse-grained soil | ○ Impacted Extent through December 2016 - 24.54 Acres |
| ● Boring did not reach saturated zone | ○ Estimated contact between Sentinel Butte Formation and medium- and coarse-grained soil | ○ Impacted Extent through December 2017 - 26.65 Acres |
| ○ Inferred Sentinel Butte Contact Zone | ○ ? | |
| ○ Approximate Property Boundary | | |

Notes:
1. The saturated transport zone (i.e. 15 to 25 feet bgs across the Site) was determined through review of soil boring logs with knowledge of current and historical groundwater elevations in monitoring wells.



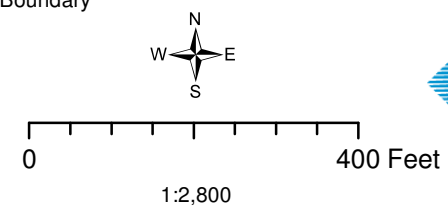
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Figure 4-5: Groundwater Elevations - October 2015
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Monitoring Well
- Recovery Well
- Inferred Groundwater Flow Direction (10/20/2015)
- Inferred Groundwater Contours (10/20/2015)
- Approximate Property Boundary

Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
** MW-9 was not installed until 12/16/2015.
Elevations referenced to feet above Mean Sea Level (MSL).



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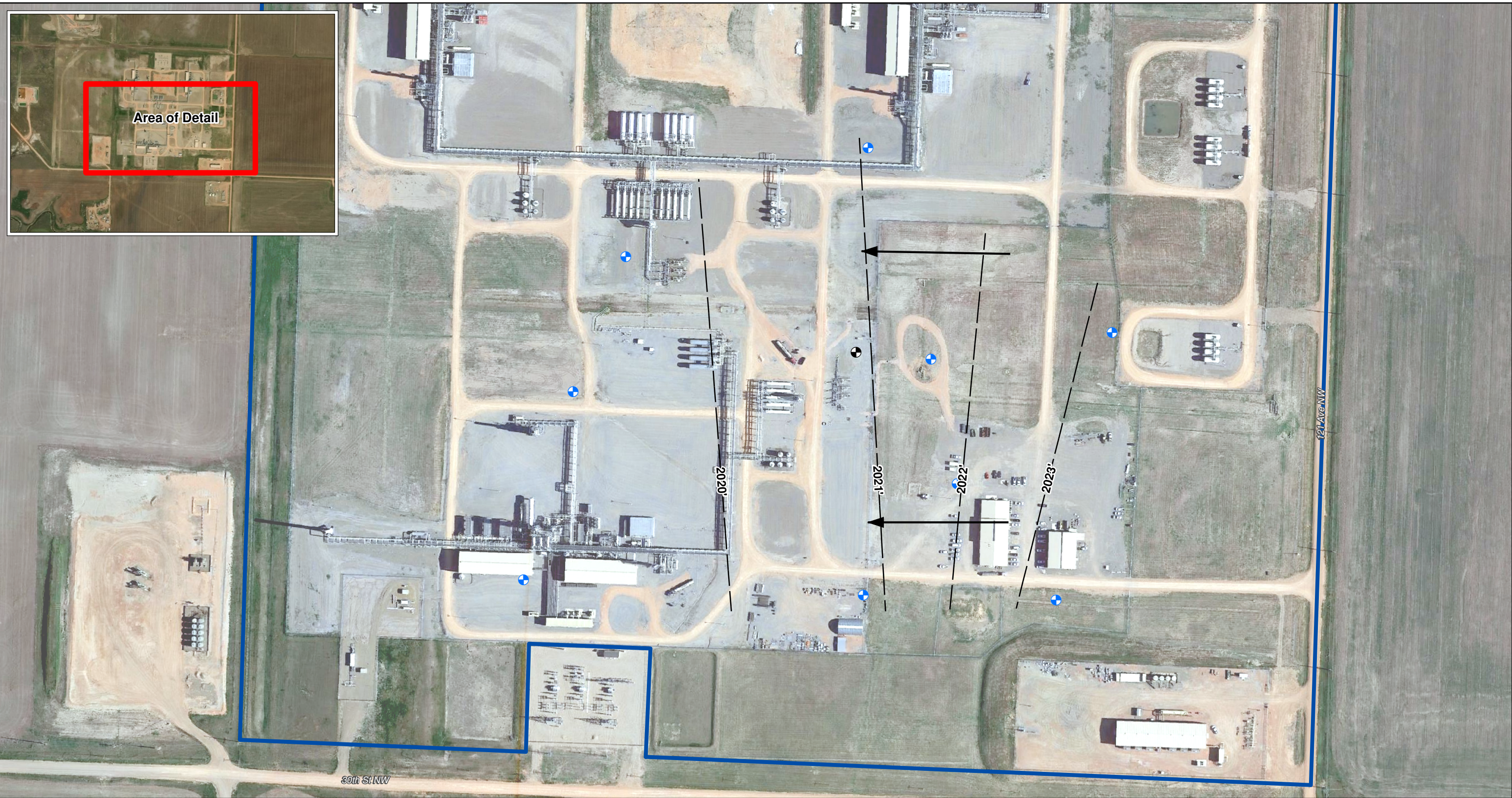


Figure 4-6: Groundwater Elevations - December 2015
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Monitoring Well
- Recovery Well
- Inferred Groundwater Flow Direction
- Inferred Groundwater Contours (12/21/2015)

Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).

Approximate Property Boundary



0 400 Feet
1:2,800



Drafted: 8/14/2018 By SB

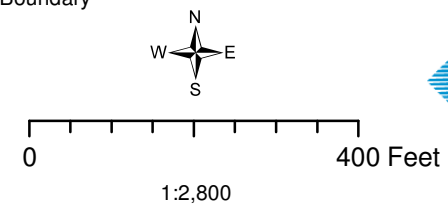
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Figure 4-7: Groundwater Elevations - March 2016
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Monitoring Well ➔ Inferred Groundwater Flow Direction (03/17/2016) □ Approximate Property Boundary
- Recovery Well ~ Inferred Groundwater Contours (03/17/2016)

Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).



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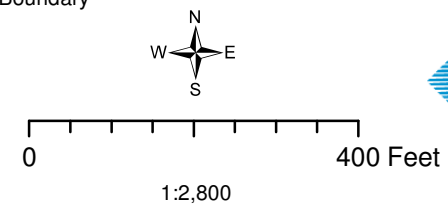


Figure 4-8: Groundwater Elevations - June 2016
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Monitoring Well
- Recovery Well
- Inferred Groundwater Flow Direction
- Inferred Groundwater Contours (06/16/2016)

Notes:
CNDs = condensate
* Wells with condensate accumulations were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).

Approximate Property Boundary



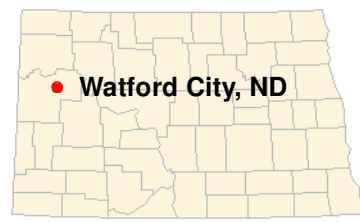
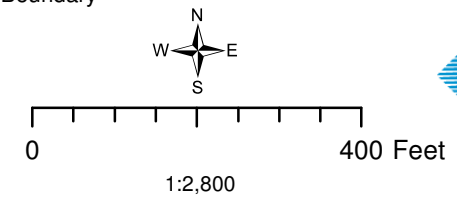
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Figure 4-9: Groundwater Elevations - September 2016
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- MW = Monitoring Well
 - RW = Recovery Well
 - Groundwater Contour
 - Inferred Groundwater Flow Direction (09/2016)
- Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
** Deep monitoring wells were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).

Approximate Property Boundary



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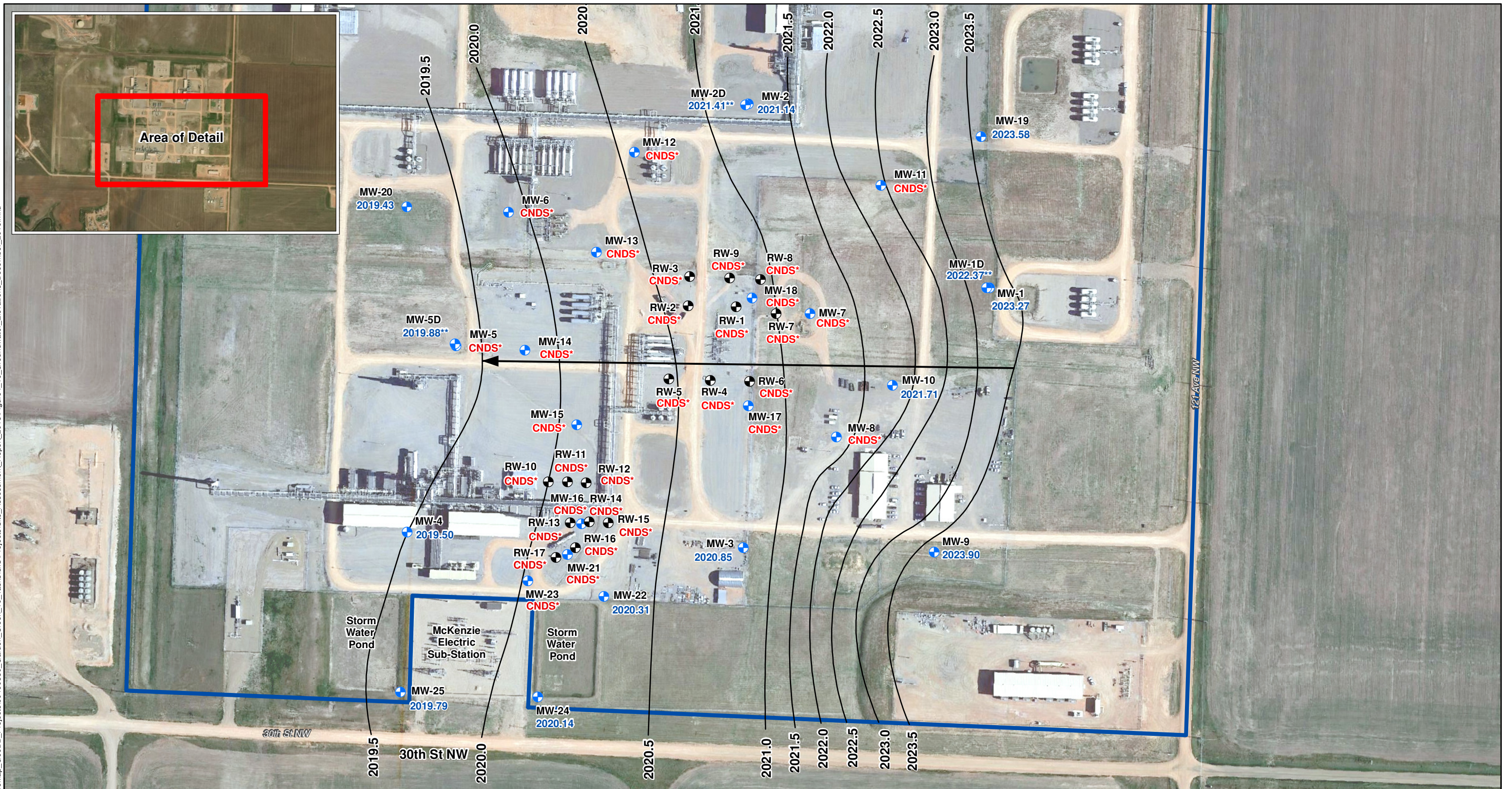
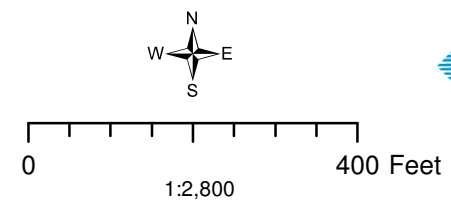


Figure 4-10: Groundwater Elevations - December 2016
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- MW = Monitoring Well
- RW = Recovery Well
- Inferred Groundwater Flow Direction
- Groundwater Contour
- Approximate Property Boundary

Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
** Deep monitoring wells were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).



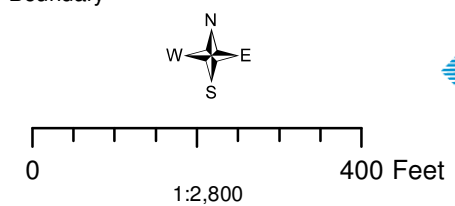
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Figure 4-11: Groundwater Elevations - March 2017
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- MW = Monitoring Well
- RW = Recovery Well
- ➔ Inferred Groundwater Flow Direction
- ~ Groundwater Contour
- - - Inferred Groundwater Contour
- Approximate Property Boundary

Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
** Deep monitoring wells were omitted from contouring.
*** Groundwater elevation was omitted from contouring due to anomalous result.
Elevations referenced to feet above Mean Sea Level (MSL).



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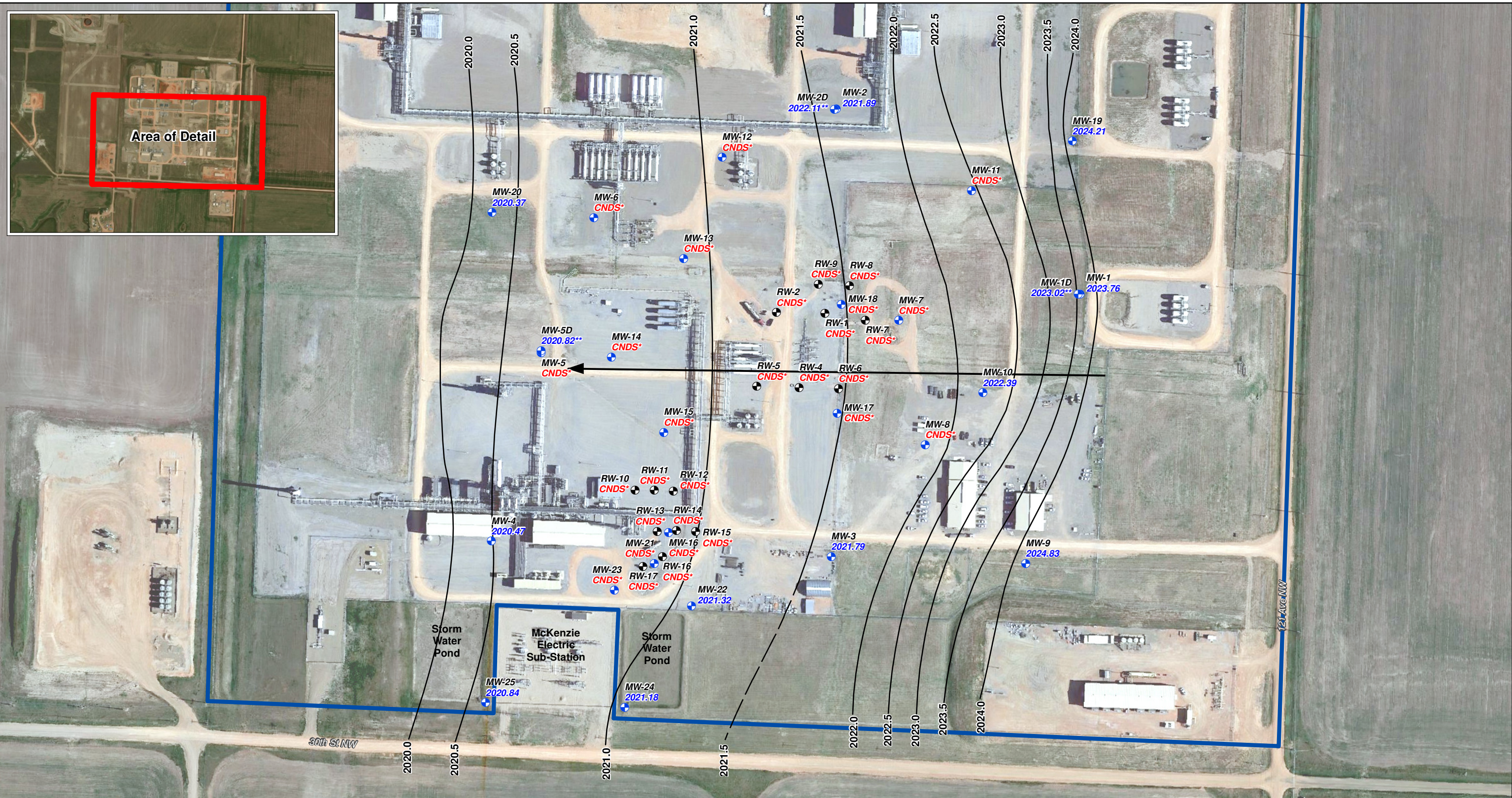
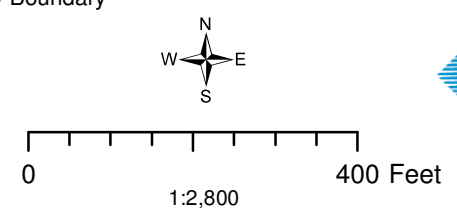


Figure 4-12: Groundwater Elevations - June 2017
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- MW = Monitoring Well
- RW = Recovery Well
- Inferred Groundwater Flow Direction
- Groundwater Contour
- Inferred Groundwater Contour
- Approximate Property Boundary

Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
** Deep monitoring wells were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).



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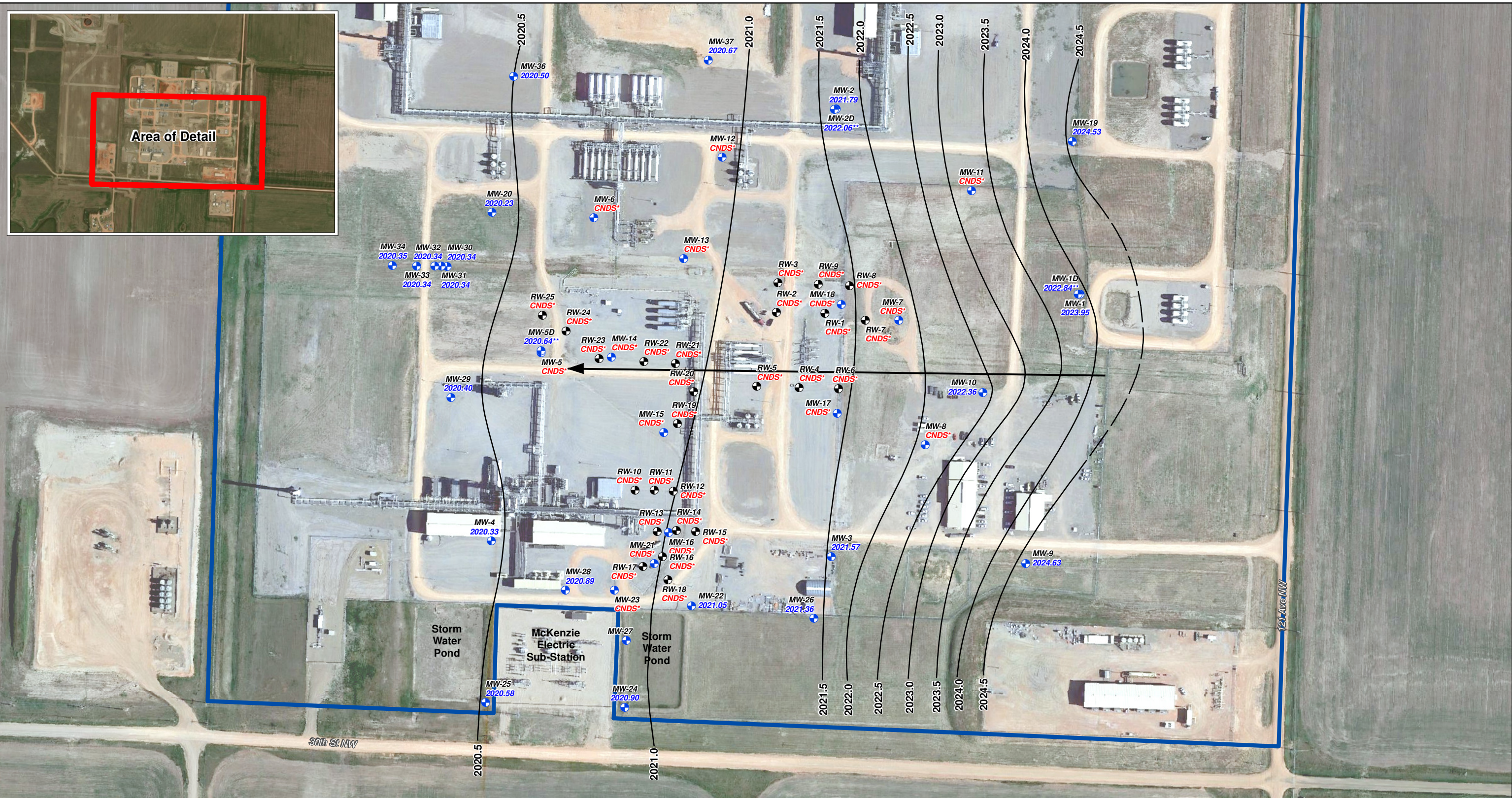
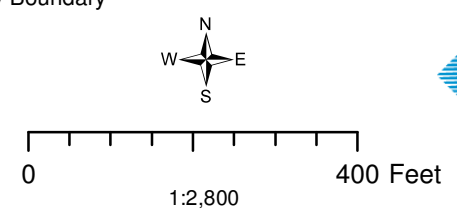


Figure 4-13: Groundwater Elevations - September 2017
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- MW = Monitoring Well
 - RW = Recovery Well
 - Inferred Groundwater Flow Direction
 - Groundwater Contour
 - Inferred Groundwater Contour
 - Approximate Property Boundary
- Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
** Deep monitoring wells were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).



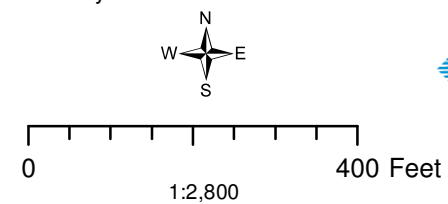
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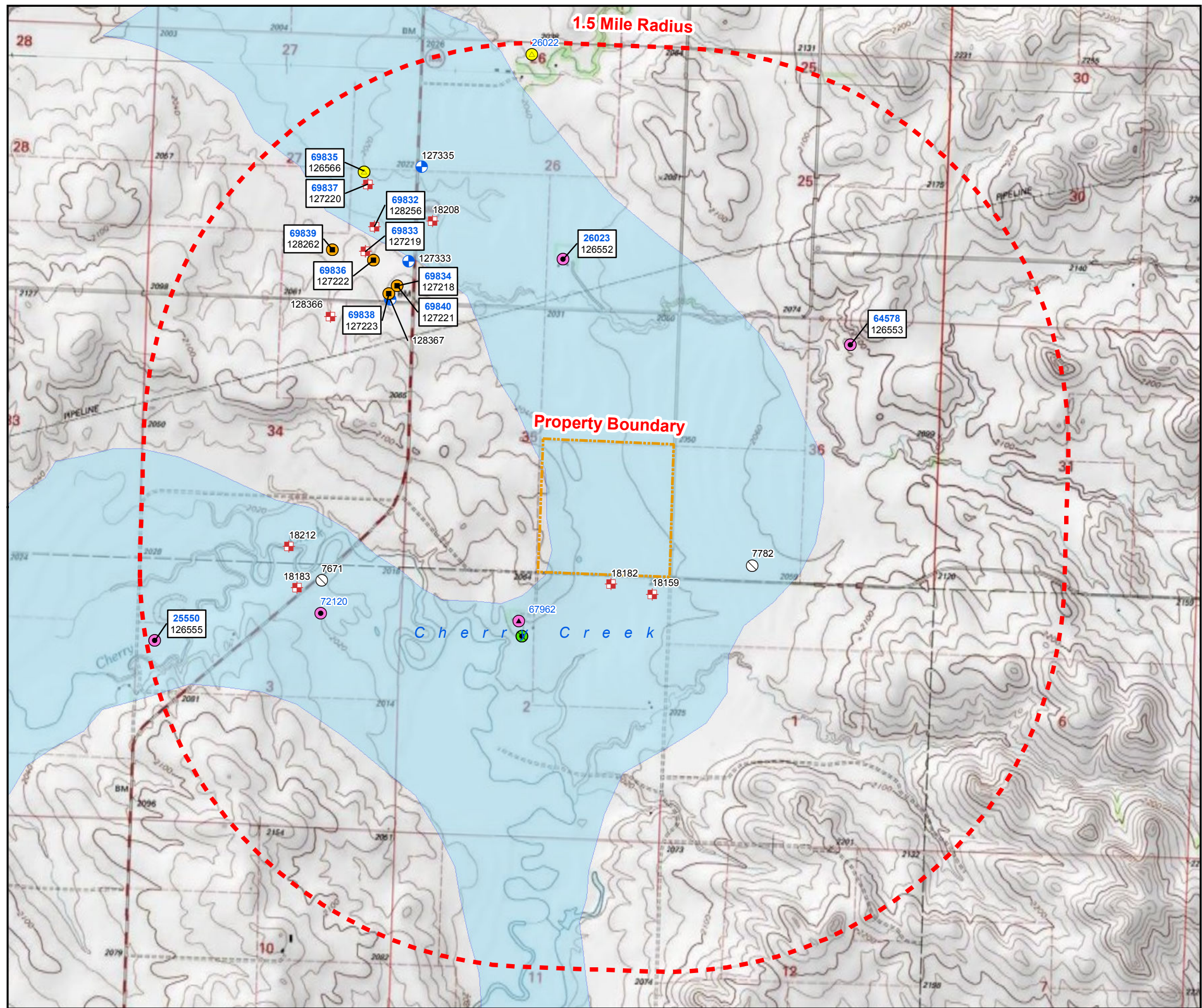


Figure 4-14: Groundwater Elevations - December 2017
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- MW = Monitoring Well
- RW = Recovery Well
- Inferred Groundwater Flow Direction
- Groundwater Contour
- Inferred Groundwater Contour
- Approximate Property Boundary

Notes:
CNDS = condensate
* Wells with condensate accumulations were omitted from contouring.
** Deep monitoring wells were omitted from contouring.
Elevations referenced to feet above Mean Sea Level (MSL).





Legend

- Domestic Well
- Domestic/Stock Well
- Domestic Well - Plugged
- Industrial Well
- Industrial Well - Plugged
- Observation Well
- Observation Well - Plugged
- Stock Well
- Test Hole
- Approximate Property Boundary
- 1-1/2 Mile Site Radius
- Approximate Cherry Creek Aquifer Limits

Well locations and aquifer data were downloaded from the North Dakota State Water Commission Map Service. Well numbers in blue are wells with drillers' reports from the North Dakota State Board of Water Well Contractors.

USGS 7.5' Topographic Quadrangle Maps: Timber Prong Creek SW & SE (1978) Schafer NE & NW (1978).



Figure 4-15
Well Receptor Survey
Site Assessment Report
Garden Creek 1 Gas Plant
Watford City, ND



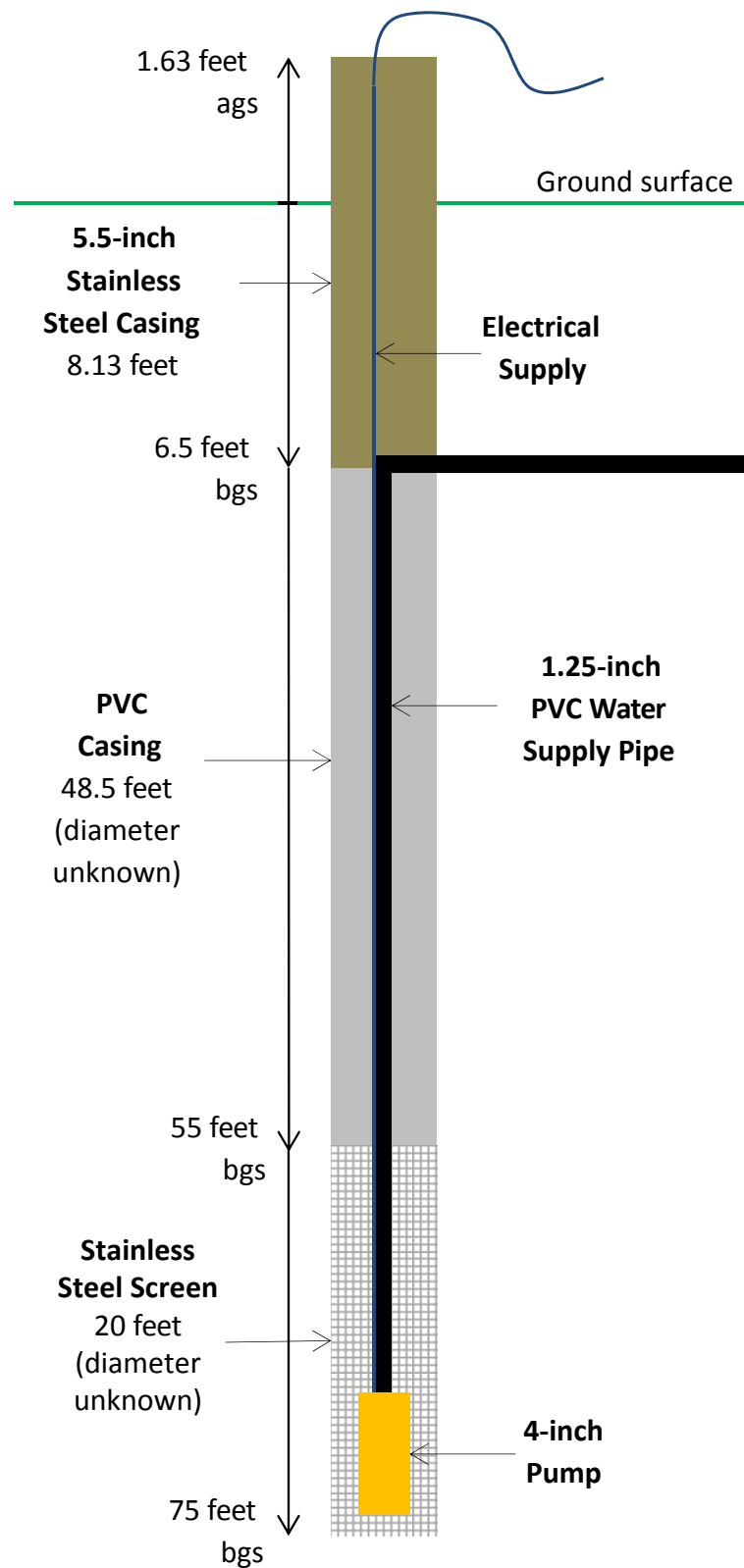


Figure 4-16
On-Site Water Supply Well
Site Assessment Report
Garden Creek 1 Gas Plant
Watford City, ND



Acronyms:
 ags = above ground surface
 bgs = below ground surface
 PVC = polyvinyl chloride

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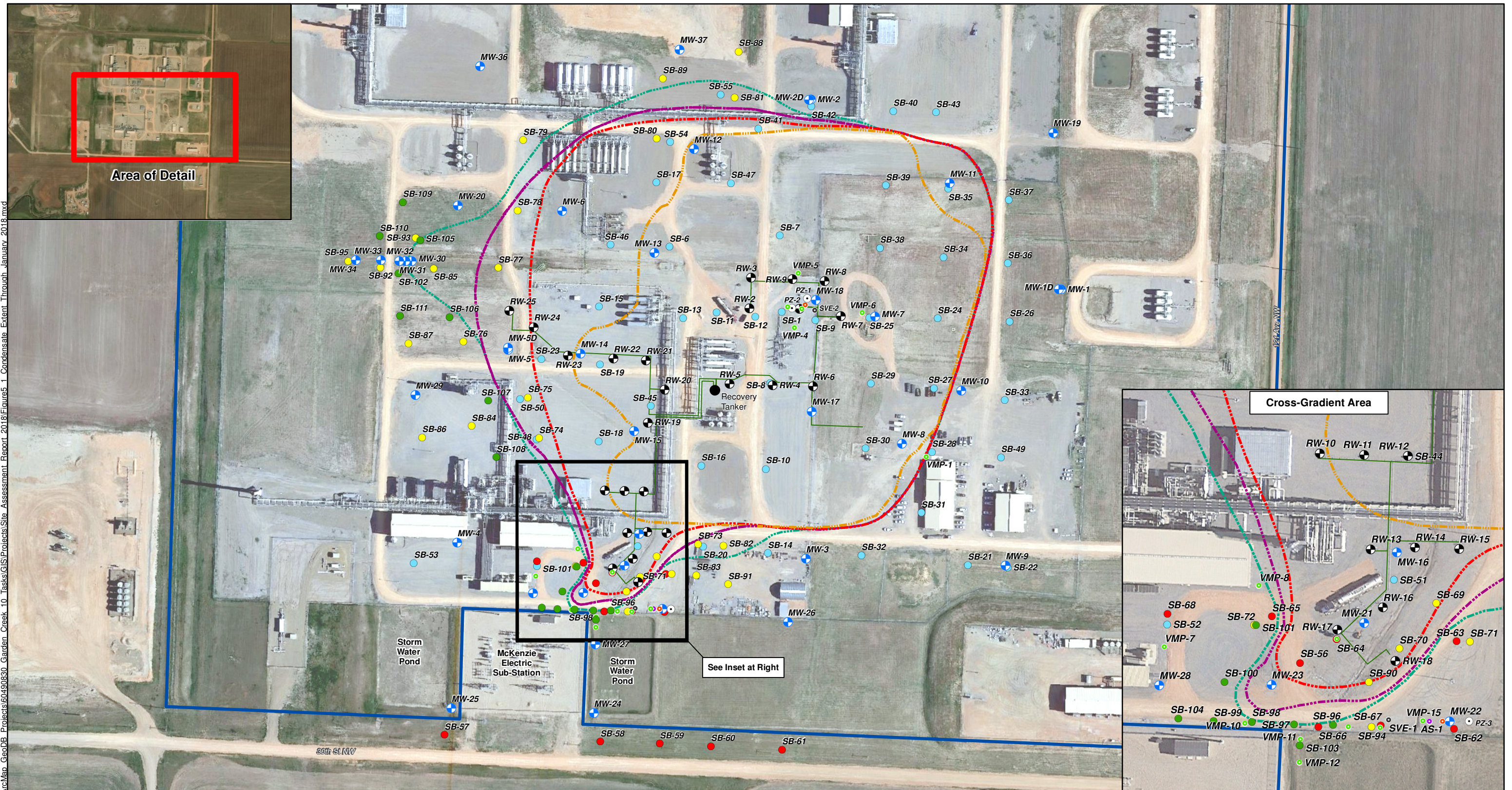


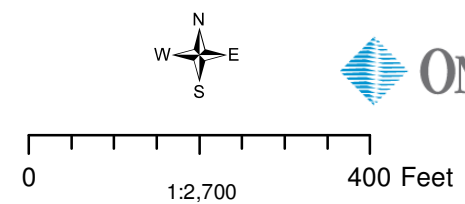
Figure 5-1: Condensate Extent Through January 2018
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Soil Boring 2015
- Soil Boring 2016
- Soil Boring 2017
- Soil Boring 2018

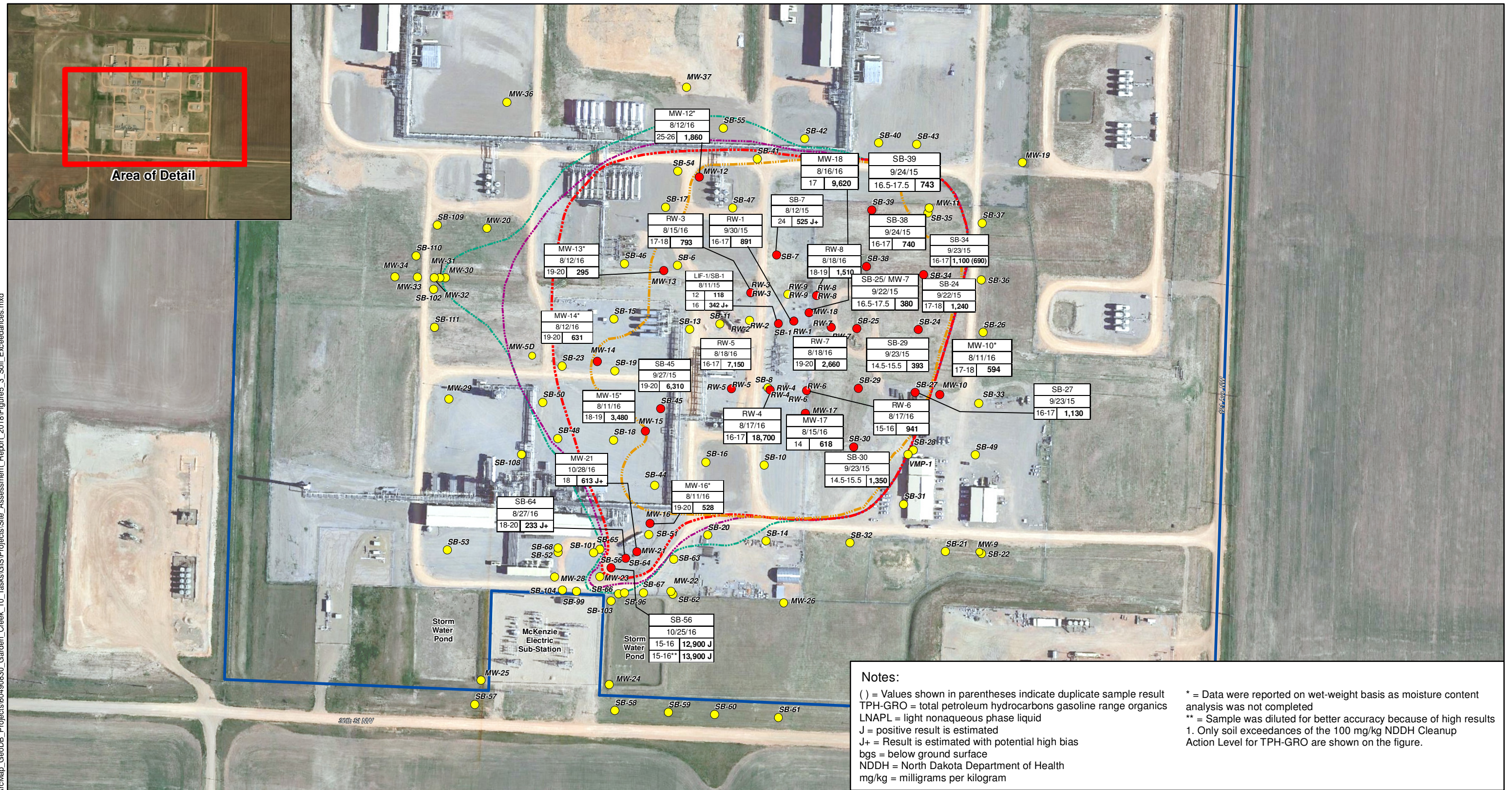
- MW = Monitoring Well
- PZ = Piezometer
- Recovery Well
- 400-Bbl Upright Tank
- Recovery System Piping
- Approximate Property Boundary

- Air Technology Locations 2017**
- AS = Air Sparge Well
 - BVW = Biovent Well
 - SVE = Soil Vapor Extraction Well
 - VMP = Vapor Monitoring Point

- Impacted Extent through September 2015 - 16.17 Acres
- Impacted Extent through October 2016 - 22.28 Acres
- Impacted Extent through December 2016 - 24.54 Acres
- Impacted Extent through January 2018 - 26.65 Acres



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Notes:

() = Values shown in parentheses indicate duplicate sample result
TPH-GRO = total petroleum hydrocarbons gasoline range organics
LNAPL = light nonaqueous phase liquid
J = positive result is estimated
J+ = Result is estimated with potential high bias
bgs = below ground surface
NDDH = North Dakota Department of Health
mg/kg = milligrams per kilogram

* = Data were reported on wet-weight basis as moisture content analysis was not completed
** = Sample was diluted for better accuracy because of high results
1. Only soil exceedances of the 100 mg/kg NDDH Cleanup Action Level for TPH-GRO are shown on the figure.

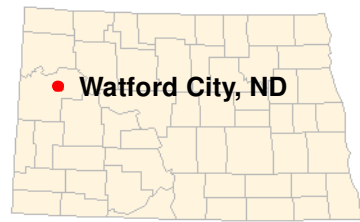
Figure 5-3: Soil Exceedances
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Condensate Extent through September 2015 - 16.17 Acres
- Condensate Extent through October 2016 - 22.28 Acres
- Condensate Extent through December 2016 - 24.54 Acres
- Condensate Extent through January 2018 - 26.65 Acres

- Soil boring sample exceeded NDDH Cleanup Action Level
- Soil boring sampled

Date	
Depth (Feet bgs)	TPH-GRO (mg/kg)

Approximate Property Boundary



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Figure 5-4: Groundwater Exceedances
Site Assessment Report
Garden Creek Gas Plant 1
Watford City, ND

- Groundwater sample exceeds NDDH Cleanup Action Level
- LNAPL present in well
- Well sampled
- Condensate Extent through January 2018 - 26.65 Acres
- Inferred Extent of Dissolved Phase Exceeding Groundwater Criteria (December 2017)
- Approximate Property Boundary

